

Power Quality Products TVSS Products Introduction

Panel Protection

The SpikeShield® line of panel surge protection offers a broad selection of products to meet the various requirements of industrial, commercial and institutional applications. No other surge suppression system can meet the flexibility, safety and performance standards set by Hubbell.

Hubbell offers surge suppression products which can handle peak amperage capacities of 40kA to 320kA. Led by the innovative PanelMaster™ series which incorporates a “Hot Swappable™” design, Hubbell offers a 160kA

panel extension that eliminates long lead lengths while providing superior clamping levels.

The SpikeShield product line also includes a line of panels with replaceable modules. This series features improved performance through the use of a low impedance bus-bar design and easily replaceable bolt-down modules.

The SpikeShield branch panel protection system includes the complete compact and economical 100kA series product offering. These products can be attached to branch panels, safety switches and load centers. The 100kA series is

available either in a filtered and non-filtered version, or in a NEMA 12 enclosure.

In addition, Hubbell also offers a 40kA series that can be attached as an appendage or flush mounted to a finished wall next to the panel. The versatility of the 40kA series products allows them to be used on branch panels, as well as main panel protection found in smaller commercial facilities.

For DIN Rail and flange mounted applications, Hubbell offers 40kA series wired products and 65kA parallel-wired products.



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The ten most frequently asked questions about surge protection

Where do power problems come from?

Surprise—only about a third of them come from outside your facility from sources such as lightning, utility grid switching and so forth. The great majority of problems come from within the facility from motors or other inductive loads as they switch on and off. Loss of power is another source because as power is restored, it does not come back in a stable fashion, but as a high-voltage transient. Brownouts do not cause electronic equipment to fail, but the transients associated with them do.

What causes transient voltages?

HVAC equipment, elevator motors, robotic equipment—basically, all inductive loads, regardless of size. In the office, they are caused by coffee makers, air conditioners, photocopiers, laser printers and vending machines.

Why has power quality grown into a major issue today?

Computer chips are becoming more dense and, subsequently, more sensitive to even the slightest power surges. In addition, clock speeds, or operating speeds, have increased and reached the range of high-speed transients. And, every time a device turns on, transient voltages may be created—a problem since we use more electrical and electronic devices every year.

How big is the problem?

More than 63 percent of all loss payouts on electronic equipment are due to power problems.

Do some people not have this problem?

No, there is no such thing as a transient-free facility.

What are the symptoms of transient voltages?

There are several: Disruptive symptoms occur when a computer freezes or suffers confused logic (this may often go undiagnosed). Dissipative symptoms result from

repeated exposure to transients and will reduce equipment life. Destructive symptoms—usually caused by lightning or wiring mistakes—are catastrophic and result in major damage.

What is the cost of these problems?

\$26B

Power-related problems cost U.S. companies over \$26 billion a year (that does not include in-home losses).

What does Hubbell offer that other companies do not?

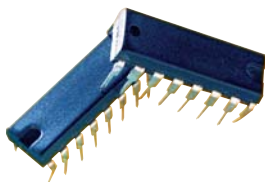
- The broadest product line in the industry.
- Patented Hot Swappable™ panels for the easiest field installation.
- LED diagnostics that indicate the suppressor is functioning properly.
- 10-year limited warranty on all wired-in products.
- Knowledge of your facility's circuits that comes with over 110 years as a leading provider of commercial and industrial wiring devices and systems.

Are diagnostics on a surge suppressor important?

Yes. Many surge suppressors do not have indicators or alarms that report loss of protection. If failure occurs, you don't know about it and may continue to use the faulty suppressors.

Is response time important when selecting a surge suppressor?

Of course. However, transients actually occur in a micro or millisecond, which is relatively slow. Most surge suppressor components react a thousand to a million times faster, so response time is irrelevant. Often, this issue has been the focal point when discussing the merits of transient voltage surge suppression (TVSS) protection. Unfortunately, response time lacks accepted testing parameters. The TVSS industry has yet to adopt sufficient testing specifications for response time.



Power Quality Products
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Service Entrance
Surge Protection Panels
320,000 Peak Amperage Capacity



HBL8P320D



HBL4P320



HBLSC

Service Entrance Surge Protection Panels
200kA Short Circuit Current Rating

Voltage	Catalog Numbers Less Disconnect	With Disconnect	Replacement Modules
Single Phase 120/240V AC	HBL3P320	HBL3P320D	HBL320M120
3Ø Wye 120/208V AC	HBL4P320	HBL4P320D	HBL320M120
3Ø Delta 240V AC	HBL5P320	HBL5P320D	HBL320M240
3Ø Delta 240/120V AC	HBL6P320	HBL6P320D	HBL320M120 & HBL320M240
3Ø Wye 220/380V AC	HBL7P320	HBL7P320D	HBL320M220
3Ø Wye 277/480V AC	HBL8P320	HBL8P320D	HBL320M277
3Ø Delta 480V AC	HBL9P320	HBL9P320D	HBL320M480
3Ø Wye 347/600V AC	HBL10P320	HBL10P320D	HBL320M347
3Ø Delta 600V AC	HBL11P320	–	HBL320M600

Notes: Surge counter available, catalog number HBLSC.
 For technical information, see page J-16.

Service Entrance Surge Panels

Features	Benefits
Thermal fusing.	Thermal fuse prevents the MOVs from overheating when exposed to high current levels, a patented Hubbell exclusive.
Compact design with bus-bar pathways.	Allows installation in areas with space restrictions. Minimizes connecting lead length which reduces impedance ensuring improved clamping performance.
320kA peak amp capacity.	Protects equipment under the worst electrical conditions.
Bolt-down modules.	Assures positive connection and allows for easy replacement.
Fault-current fusing.	Prevents excessive panel damage caused by internal short circuits or component failure.
LED & audible alarm status indicator.	Provides visual and audible indication of panel status. Green for operational, red for module failure. Audible alarm for module failure with silencing.
Sine wave tracking.	Provides uniform clamping throughout the sine wave.

Note: All panel products are UL Listed to Standard 1449.